
Information technology — Categorization of software

Technologies de l'information — Classement des logiciels

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art" for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/IEC TR 12182, which is a Technical Report of type 2, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software engineering*.

Introduction

This Technical Report has several purposes which are directed towards its various intended audiences: the software engineering community; the users of software engineering standards, specifically those developed by ISO/IEC JTC 1/SC 7; and developers of software engineering standards, primarily SC 7.

For the software engineering community, this document will identify the types of software to which particular software engineering standards apply. This will help the software engineer to establish the risk planning criteria, the adequate life-cycle model to apply, the specific effort required for specific life-cycle phases, and the tools needed.

For the users and developers of software engineering standards, it will establish a framework for discussing and identifying candidate software engineering standards based on the software categorization scheme and for using the scheme to relate software and software engineering standards.

Specifically for SC 7, this Technical Report will provide an aid for positioning software engineering standards and work items within the structure of SC 7 and it is intended that new projects, working drafts, committee drafts, and draft international standards will identify the target categorization(s) relevant to the area of application. With respect to the latter, it is understood that, in some documents, only part of this Technical Report will address the specified categorization.

Examples are given to clarify the categorization scheme for software. For the standards developer, this Technical Report helps position existing standards and work items. For the software engineer, it provides a high level scheme with which to locate existing standards.

In addition to the normal introductory clauses, this Technical Report provides a Framework for Categorization of Software, a Scheme of Categorization, and Examples of Application of the Standard.

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Information technology — Categorization of software

1 Scope

The scope of this Technical Report is the categories of software (including relevant software development products and data) that are produced by software engineering processes. It describes a categorization scheme for software that encompasses different points of view and significant characteristics and attributes that describe and define software and software categories.

1.1 Field of application

The field of application of the Categorization of Software includes software engineering and its associated standards, software, data, and methodologies.

1.2 Audience and purpose

This Technical Report is primarily directed towards several audiences: the software engineering community; the users of software engineering standards, specifically those developed by ISO/IEC JTC 1/SC 7; and developers of software engineering standards, primarily SC 7.

The purpose or usage of the Categorization of Software is the identifying of software categories, identifying of applicable software engineering standards for software, and determining the relationship of software tasks, processes, or products to software engineering standards.

The use of the Categorization of Software is defined as the generation of a justifiable entry for each of the views specified in Clause 7 for the given software product or in a mapping to a software engineering standard. In some circumstances a null entry is appropriate.

It often occurs that the software engineering processes, and the products of those processes, apply to the procurement or development of certain kinds of software. For example, ISO 6592 applies to large application systems and ISO 9127 applies to packaged software. This Technical Report provides a categorization scheme to assist in (1) the understanding of the area of application of a standard or software, (2) the identification and selection of standards applicable to a software application, and (3) the positioning of new standards.

1.3 Limitations

Since software engineering is a fast changing field, the categorization outlined herein can only be a conceptual scheme. Users, therefore, should use judgement when applying it to applications. The categorization scheme in this Technical Report is empirical in nature. Its formulation is not based on well-defined user needs. The scheme has not been validated in field trials.

2 Conformance

Not applicable.